

A Model for Aligning Self-Determination and General Curriculum Standards

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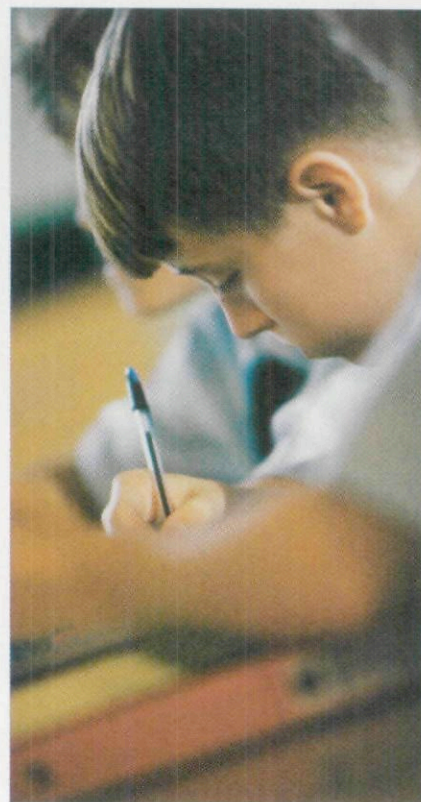
Ms. Smith and Ms. Alvarez, special education teachers at Harris Middle School, have had many conversations about how to balance all their responsibilities. They are accountable for teaching academic content standards, and they also must address their students' individual needs, including self-determination skills. They often wonder, "How can we do it all given our limited time and resources?"

Researchers and practitioners have emphasized the importance of teaching self-determination skills to students with disabilities for more than a decade (e.g., Algozzine, Browder, Karvonen, Test, & Wood, 2001; Field, Martin, Miller, Ward, & Wehmeyer, 1998; Wehmeyer, Field, Doren, Jones, & Mason, 2004). For example, Wehmeyer and Schwartz (1997, 1998) and Wehmeyer and Palmer (2003) outlined the postsecondary benefits for students who exhibited self-determination skills. The field has also begun to examine the benefits of self-determination for students while in school (Martin et al., 2003; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000; Wehmeyer et al., 2004). For example, evidence shows that students with and without disabilities can be taught self-determination skills in conjunction with academic skills (e.g., Konrad, Fowler, Walker, Test, & Wood, 2007; Palmer, Wehmeyer, Gipson, & Agran, 2004; Wehmeyer et al., 2004; see box, "What Does the Research Say About Self-Determination and Academic

Skills?"). Further, although The Individuals With Disabilities Education Improvement Act (IDEA, 2004) does not explicitly call for instruction in self-determination skills, the law does require that students' strengths, needs, preferences, and interests be considered when developing individualized education programs (IEPs). Thus, the importance of self-determination is implied in special education legislation. Dual objectives in teaching may allow teachers to continue to teach self-determination, which they view as important, in an era of greater accountability for academic instruction (Wehmeyer, Agran, & Hughes, 2000).

"How can we do it all given our limited time and resources?"

One major barrier to teaching self-determination in recent years has been teachers' not knowing how to focus on reading, writing, and mathematics and simultaneously teach self-determination skills. Thoma, Nathanson, Baker, and Tamura (2002) found that the majority of teachers they surveyed taught self-determination only informally and had never heard of published curricula and instructional methods for teaching self-determination. Not knowing how to teach self-determination skills was echoed in the findings of a survey of teachers regarding self-determination



goals in students' IEPs (Mason, Field, & Sawilowsky, 2004). Teachers in the Wehmeyer, Agran, et al. (2000) survey indicated that not enough time was available to teach students self-determination skills and the other skills they were accountable for teaching. With higher stakes for demonstrating academic skills, teachers and districts need models of how to integrate other relevant skills into teaching the important academic content (Konrad et al., 2007; Wehmeyer et al., 2004). A dual focus on self-determination and academic skills is crucial for all students' success (Benz, Yovanoff, & Doren, 1997; Raskind, Goldberg, Higgins, & Herman, 1999; Thurlow, 2002; Wehmeyer et al., 2004).

Description of the Model

In response to these concerns (i.e., not having enough time to do it all), we have developed a model to help practitioners integrate self-determination skills into the general academic curriculum (see Figure 1). Planning worksheets guide teachers through the process and

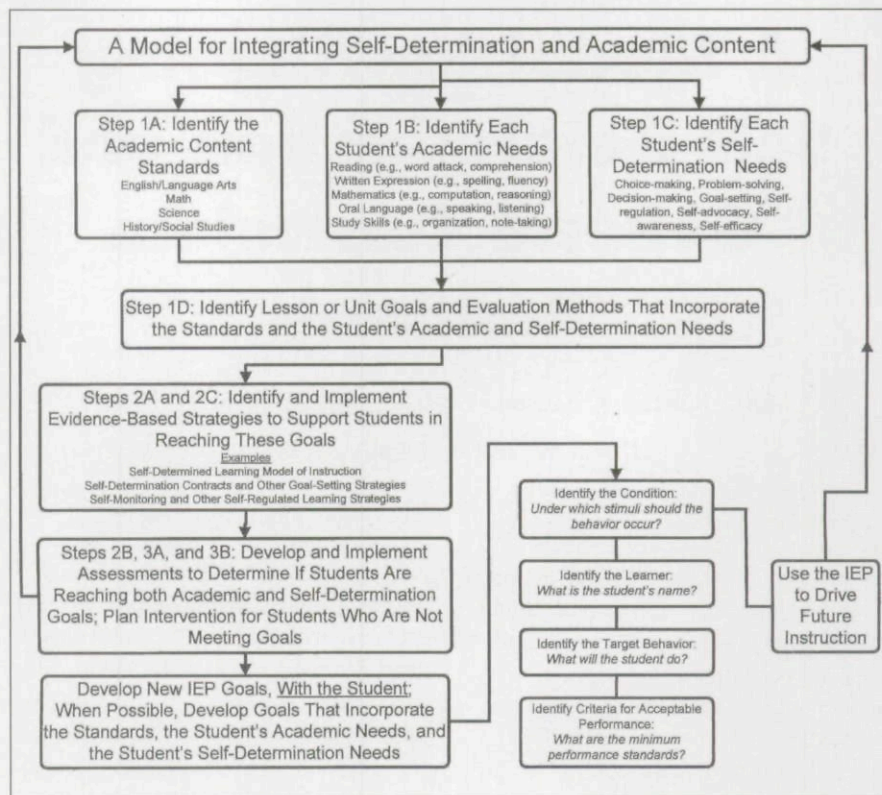
What Does the Research Say About Self-Determination and Academic Skills?

Students with disabilities are likely to face poor outcomes when they leave high school (e.g., Baer et al., 2003; Colley & Jamison, 1998; Sample, 1998), so research has been conducted to identify the personal attributes of successful adults with disabilities. Findings from these studies indicate that strong academic skills (Benz, Yovanoff, & Doren, 1997; Halpern, Yovanoff, Doren, & Benz, 1995) and high levels of self-determination (Raskind et al., 1999; Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997, 1998) are among the variables correlated with improved postschool outcomes. Therefore, school programs should include an emphasis on academic skills development and efforts to promote self-determination.

Self-determination is the “combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior” (Field et al., 1998, p. 2). Self-determination includes the following components: self-management, independent living skills, internal locus of control, choice making, decision making, problem solving, goal setting and attainment, self-advocacy, self-efficacy, self-awareness and understanding, and self-evaluation and reinforcement (Algozzine et al., 2001).

Fortunately, emerging evidence demonstrates that self-determination and academic skills development go hand-in-hand. Specifically, instruction in fundamental self-determination skills (e.g., goal-setting, self-management) actually promotes academic skill development (Fowler, Konrad, Walker, Test, & Wood, 2007; Konrad, Trela, & Test, 2006; see box “Evidence-Based Strategies for Promoting Self-Determination and Academic Skill Development”). Furthermore, when several self-determination components are combined within an intervention package, the effects on academic skills may be even greater.

Figure 1. A Model for Integrating Self-Determination and Academic Content



can be applied to instructional decision-making for an individual student (see Figure 2) or for a group of students (see Figures 2 and 3). The model is designed for teachers to begin using immediately, even before they have adjusted their IEPs to match the model. However, the process is recursive: Eventually, when teachers become more comfortable with the model and when they more fully involve their students in the IEP process, they will more naturally develop IEP goals that make this process even easier.

Step 1: Decide What to Teach

In Step 1, teachers must figure out what knowledge and skills they are going to teach. This decision is based on the academic content standards outlined in their district or state curriculum as well as each individual student's needs as determined by IEP goals and objectives and ongoing observation and assessment.

Step 1A: Identify Academic Content Standards. Teachers should use their district or state curriculum standards to

identify the academic content and skills they are responsible for teaching.

Step 1B: Identify Each Student's Academic Needs. A crucial step for teachers of students with disabilities is to go beyond the general grade-level standards to look at each individual student's academic needs. The logical place to start is students' IEPs; however, teachers should also use additional formal and informal assessment data that they are collecting in the classroom.

Step 1C: Identify Each Student's Self-Determination Needs. Self-determination is a complex construct that is characterized by an array of component skills. These skills include choice making, problem solving, decision making, goal setting, self-regulation, self-advocacy, and self-awareness. On the basis of teacher observations, parent feedback, and self-determination assessments (e.g., The AIR Self-Determination Scale, Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994; The Arc's Self-Determination Scale, Wehmeyer, 1995; Self-Determination Knowledge Scale, Hoffman, Field, & Sawilowsky, 1996), teachers should identify which of the compo-

Figure 2. Planning Worksheet for Integrating Self-Determination and Academic Content

Planning Worksheet for Integrating Self-Determination and Academic Content

Teacher: _____

Student or Class: _____

Grade Level(s): _____

School Year: _____

Step 1: Decide What to Teach	Step 1A: Identify academic content standards in state or district curriculum.	General area(s): <input type="checkbox"/> English/Language Arts <input type="checkbox"/> Mathematics <input type="checkbox"/> Science <input type="checkbox"/> Social Studies/History	Specific standards:
	Step 1B: Identify individual academic needs that align with the standard(s) identified in Step 1. If planning for group instruction, complete planning matrix in Figure 3.	General area(s): <input type="checkbox"/> Basic Reading (BR) <input type="checkbox"/> Reading Comprehension (RC) <input type="checkbox"/> Mathematics Calculation (MC) <input type="checkbox"/> Mathematics Reasoning (MR) <input type="checkbox"/> Spelling (SP) <input type="checkbox"/> Written Expression (WE) <input type="checkbox"/> Listening (LS) <input type="checkbox"/> Oral Expression (OE) <input type="checkbox"/> Study Skills (SS)	Specific needs:
	Step 1C: Identify individual self-determination needs. If planning for group instruction, complete planning matrix in Figure 3.	General area(s): <input type="checkbox"/> Choice Making (CM) <input type="checkbox"/> Problem Solving (PS) <input type="checkbox"/> Decision Making (DM) <input type="checkbox"/> Goal Setting (GS) <input type="checkbox"/> Self-Regulation (SR) <input type="checkbox"/> Self-Advocacy (SA) <input type="checkbox"/> Self-Awareness (SW)	Specific needs:
	Step 1D: Identify unit or lesson goals that incorporate standards, individual students' needs, and self-determination. Consider how progress will be assessed.	<input type="checkbox"/> Unit Goal(s) <input type="checkbox"/> Lesson Goal(s)	
Step 2: Decide How to Teach It	Step 2A: Identify evidence-based strategies to meet unit or lesson goals. Develop lessons around these strategies.	Strategy:	Evidence supporting its use:
	Step 2B: Decide how to evaluate effectiveness of strategies. (How will you know students have met goals?)	Self-determination assessment:	Academic assessment:
	Step 2C: Implement strategies in the classroom.	Date to begin:	Resources needed:
Step 3: Evaluate and Adjust	Step 3A: Assess effectiveness of strategies using methods identified in Steps 1D and 2B.	Self-determination assessment results:	Academic assessment results:
	Step 3B: Plan intervention for students who have not met goals, and plan for follow-up instruction.	Intervention needed:	Intervention needed:

Figure 3. Part 2 of Planning Worksheet for Integrating Self-Determination and Academic Content (Used to Plan for Group Instruction)

Planning Worksheet for Integrating Self-Determination and Academic Content

Steps 1B and 1C: Planning for Group Instruction

Directions:

- Write your students' names in the first column.
- Identify each student's individual academic and self-determination needs by marking a ✓ in the appropriate cell. For academic needs, focus only on the areas that align with the standard identified in Step 1A (Figure 2).
- Add the totals in the last row.
- Use these totals to help you select (in Steps 1B and 1C in Figure 2) the areas you will address in your unit or lesson.

	Academic Needs									Self-Determination Needs						
Students	BR	RC	MC	MR	SP	WE	LS	OE	SS	CM	PS	DM	GS	SR	SA	SW
Total:																

ment skills they need to target with their students.

Step 1D: Identify Goals. The model allows teachers to plan for individual lessons or entire instructional units. Therefore, in this step, teachers should decide whether they are planning for a single lesson, which should fit within an existing unit, or for a unit, and then determine what the goals (i.e., measurable outcomes) of the lesson or unit will be. To help teachers write measurable goals, they should consider the evaluation methods they will use. They might ask themselves such questions as, "How will I evaluate the effectiveness of my unit or lesson?" and "How will I know whether students have met the goals?" At this point, teachers do not

need to have the actual assessments developed, but they should have an idea of what they will be assessing.

The model allows teachers to plan for individual lessons or entire instructional units.

Applying Step 1 to Whole-Group Instruction. The reality for most classroom teachers is that they must teach students in whole-group settings. The group planning worksheet (see Figure 3) will be helpful for teachers who are planning lessons and units for groups of

students. This planning worksheet can help a teacher identify the overlapping needs of the students in her class, which will allow her to prioritize and maximize planning and teaching time. To use the worksheet, write all students' names in the first column. Then identify with a check mark which academic and self-determination skills each student needs to address. Next, add up the totals for each column. These totals will give the teacher an idea of which areas are priorities in the class. Of course, this outcome does not mean that the other skill areas should be neglected, nor does it necessarily mean that the areas with the highest tallies are the ones that must be addressed in the next unit. Rather, the purpose of using the planning sheet

is to give teachers a visual, quantitative analysis of the priorities in their classrooms. Once the group planning worksheet (Figure 3) is complete, the teacher can return to the original worksheet (Figure 2) to continue the Step 1 planning process.

Step 2: Decide How to Teach It

When teachers decide how they will teach, selecting methods that have an evidence base is imperative. For students with disabilities, teachers have no time to waste on ineffective, inefficient instructional practices.

Step 2A: Identify Evidence-Based Strategies. Several instructional strategies that were designed as self-determination strategies have been validated as effective for improving academic skills. These strategies are most efficient because they promote students' autonomous, self-regulated behavior while simultaneously promoting academic progress (see boxes, "Guidance for Teaching Self-Determination," and "Evidence-Based Strategies for Promoting Self-Determination and Academic Skill Development").

Step 2B: Decide How to Evaluate Effectiveness of Strategies. When selecting teaching strategies, teachers should be sure they have in mind what they are trying to teach and how they will measure students' progress on the intended outcomes (i.e., return to Step 1D). They must be sure to include a variety of ongoing assessments (i.e., progress-monitoring checks) and end-of-lesson and end-of-unit assessments. Students can have involvement in these assessments (e.g., through self-recording, writing reflections on progress), which not only helps produce assessment data but also promotes self-determination. For example, a teacher who is using a self-regulated spelling strategy, such as copy-cover-compare (e.g., Weber & McLaughlin, 2000), to improve students' spelling and self-regulation skills may collect ongoing data on (a) words spelled correctly on weekly spelling tests; (b) students' accurate application of the self-regulation strategy (e.g., observations of students implementing the strategy, students' ability to state the steps of the strategy, etc.); and (c) cor-

rect letter sequences on grade-level, curriculum-based measurement probes. In this example, students can be involved in data collection and progress monitoring by self-graphing their spelling scores.

Step 2C: Implement Strategies. At this point, teachers are ready to write and implement their lessons. When developing lesson plans from research articles, teachers should be careful not to deviate from the procedures described in the article. Similarly, when implementing a commercial curriculum, teachers should carefully adhere to scripts and guidelines outlined in the curriculum.

Step 3: Evaluate and Adjust

After teachers begin implementing the instructional strategies identified in Step 2, they need to engage in ongoing assessment of student outcomes to ensure that the strategies are having the desired effects on both self-determination and academic skills.

Step 3A: Develop and Implement Assessments Identified in Step 2. In addition to the continuous assessment that occurs during the lesson or unit, teachers should consider administering a postlesson assessment to measure students' overall response to instruction (see Step 2A). These assessments may be formal, informal, or a combination of both. The most important outcomes are that teachers are measuring progress on the target behaviors (lesson or unit goals) identified in Step 1D and that they are keeping track of the data collected so that they can use this information to (a) guide future instruction and (b) report progress to students, parents, and other stakeholders.

Step 3B: Plan Intervention for Students Who Have Not Met Goals. Even with instruction using an evidence-based strategy, some students will likely not respond to instruction. Teachers should use assessment information obtained in Step 3A to identify such students and to make informed decisions about the type and intensity of supplemental intervention that is needed.

The Model in Practice

Planning for an Individual

Figure 4 shows an example of a completed worksheet that Ms. Smith used to plan instruction for John S., one of the students in her language arts class. Ms. Smith, understanding the need to address state content standards and John's individual needs, first used Steps 1A, 1B, and 1C to determine what content to include in her instruction. This process allowed her to develop an appropriate unit goal (Step 1D) that addressed the broad areas outlined in her curriculum and the specific needs identified in John's IEP.

Next, Ms. Smith needed to figure out how to teach this unit (Step 2A) and to evaluate the effectiveness of her instruction (Step 2B). She knew that strategy instruction was a research-validated approach to teaching a variety of academic skills, so she started there (see box "Evidence-Based Strategies for Promoting Self-Determination and Academic Skill Development"). Ms. Smith also determined ahead of time how she was going to monitor progress and made evaluation checklists that she could use throughout the unit. She figured out the materials she needed to implement the unit and began instruction (Step 2C).

During instruction, she collected each of the paragraphs John wrote so she could monitor his progress (Step 3A). She used her premade checklist to evaluate the paragraphs for content (i.e., Was he able to articulate reasonable goals and objectives?) and form (i.e., Did he write complete sentences? Was the topic clear? Were each of his supporting details on topic?). She made sure to keep track of these data so she could include them on IEP progress reports and, more important, use them to drive future instructional decisions. She noted that John had higher scores for *content* when the goals he chose were nonacademic, and that although he met criteria for *form*, his sentences were simple. She used this information to help her develop her next instructional unit on writing complex and compound sentences. She decided that she would begin this unit by teaching John

Guidance for Teaching Self-Determination

The following resources are available to assist teachers as they begin making decisions about how to teach self-determination skills.

Articles

Browder, Wood, Test, Karvonen, & Algozzine (2000) provide a map for selecting resources to support self-determination instruction.

Field et al. (1998) provide a thorough overview of self-determination's history and concepts as well as recommend exemplary educational activities, including student involvement in assessment, IEP development, and the need for explicit instruction of skills. The article also offers suggestions for promoting the self-determination skills of students in their families.

Martin et al. (2003) describe steps used in developing self-determination contracts with students to improve their productivity on academic tasks and their self-determination skills. The article provides sample contracts and lists the steps used in the intervention.

Mason, McGahee-Kovac, Johnson, and Stillerman (2002) describe steps used by high school teachers to prepare students to participate in their IEP meetings, using *Student-Led IEPs: A Guide for Student Involvement* (McGahee, Mason, Wallace, & Jones, 2001).

Palmer and Wehmeyer (2003) delineate the use of the self-determined learning model of instruction (SDLMI) to help elementary students identify strengths and interests, set goals, and follow steps to attain goals.

Pocock and colleagues (2002) describe a program designed to improve self-determination skills of high school students with learning disabilities through group support and public speaking.

Test, Browder, Karvonen, Wood, and Algozzine (2002) give instructions for creating lesson plans from studies on the effectiveness of self-determination interventions. The article presents a step-by-step process for extracting information from research articles to apply in the classroom.

Test, Fowler, Brewer, and Wood (2005) describe a conceptual model of self-advocacy and suggest various strategies for promoting the development of self-advocacy skills, including knowledge of one's own strengths, needs, and interests; knowledge of one's rights; communication skills; and leadership skills.

Zickel and Arnold (2001) describe an intervention designed to prepare elementary students with disabilities to participate in their IEP meetings.

Web Sites

<http://www.selfadvocacy.com>

Web site for Advocating Change Together, a grassroots self-advocacy organization run by and for individuals with disabilities; includes a list of products available for teaching self-advocacy skills to students and young adults

<http://www.youthhood.org>

Web site for youth; includes discussion forums and resources for transition planning, health services, jobs, and legal issues

<http://www.ou.edu/zarrow>

Web site for the Zarrow Center at the University of Oklahoma; includes presentations on self-determination topics

<http://www.beachcenter.org>

Web site for the Beach Center at the University of Kansas; includes articles defining self-determination and describing interventions

<http://www.uncc.edu/sdsp>

Web site for the Self-Determination Synthesis and the Self-Advocacy Synthesis projects; includes descriptions of self-determination curricula, lesson-plan starters, and a directory of model programs that promote the self-advocacy of students with disabilities

<http://www.sdtac.uncc.edu>

Web site for the Self-Determination Technical Assistance Center; includes descriptions of four exemplar programs, PowerPoint presentations and resource materials developed by teachers, and student-developed PowerPoint presentations for their IEP meetings

<http://www.studentledieps.org>

Resources for teachers, students, and parents about the student-led IEP process

<http://www.ldonline.org/article/6304>

Article that provides a brief description of what students should expect at their IEP meetings and how students should prepare; includes questions students can ask themselves when preparing for their IEP meetings

<http://www.nichcy.org/pubs/stuguide/ta2.pdf>

A guide for parents and teachers; includes step-by-step directions, worksheets, and additional information and materials that can be used to encourage students to develop their IEPs

<http://hawbaker.pls.iowapages.org/id2.html>

Resource for teachers; provides prompts to help students prepare for their IEP meetings

http://www.ideapractices.org/bk/catalog2/student-led_ieps.pdf

Guide that includes templates and information about starting a student-led IEP program

to write his academic IEP objectives as behavioral statements beginning with "When given," to illustrate complex sentences. This tactic would give him more practice writing academic IEP objectives while teaching him more sophisticated sentence structures.

Planning for a Group

Figures 5 and 6 show examples of completed worksheets that Ms. Alvarez used to plan group instruction for her sixth-grade science class. She had 10 students with varying disabilities in her

self-contained science class, and although each of her students had unique learning needs and goals, she knew that she could maximize her instructional time by identifying skill areas that overlapped among her students and by finding ways to address

Evidence-Based Strategies for Promoting Self-Determination and Academic Skill Development

The following list provides examples of interventions that promote self-determination component skills.

Choice Making

- Give students a choice between academic assignments or a choice of the order in which to complete assignments (Jolivet, Wehby, Canale, & Massey, 2001; Moes, 1998).

Decision Making

- Teach students to decode situations and make decisions regarding actions needed to improve behaviors that support academic performance (e.g., asking for assistance, completing an assignment; O'Reilly, Lancioni, Gardiner, Tiernan, & Lacy, 2002).

Problem Solving

- Teach skills that support academics (e.g., following directions, contributing to class) and augment academic performance (e.g., problem-solving methods in science, organization of materials in English) through the *Self-Determined Learning Model of Instruction* (Mithaug, Wehmeyer, Agran, Martin, & Palmer, 1998). Teach students to identify a goal, plan steps needed to achieve the goal, move through a series of problem-solving steps to make progress, and evaluate progress and make adjustments to the goal or plan (Agran, Blanchard, Wehmeyer, & Hughes, 2002; Palmer & Wehmeyer, 2003; Palmer et al., 2004; Wehmeyer, Palmer, et al., 2000). *Note:* This learning model addresses several self-determination components.

Goal Setting

- Teach students to write their IEP goals and objectives in paragraph format (Konrad et al., 2006) using the self-regulated strategy-development model (Sexton, Harris, & Graham, 1998).
- Instruct students to set goals for amount or quality of work (e.g., problems completed, pages read; Fuchs, Bahr, & Rieth, 1989; Martin et al., 2003; Schunk, 1985; Warner & deJung, 1971).
- Use student-signed contracts to encourage students to meet academic goals (Ajibola & Clement, 1995; Martin et al., 2003; Tollefson, Tracy, Johnsen, & Chatman, 1986).

Self-Awareness

- Improve long-term assignment completion by teaching students to identify strengths and needs, plan steps, monitor progress, and evaluate quality (Lenz, Ehren, & Smiley, 1991).

Self-Recruiting/Self-Advocacy

- Teach students to recruit teacher assistance (Alber & Heward, 2000; Todd, Horner, & Sugai, 1999).

Self-Regulation/Self-Management

- Teach students to reinforce themselves with self-praise or recruit reinforcement for demonstration of a target behavior (e.g., on-task performance, completion of assignment; Brooks, Todd, Tofflemoyer, & Horner, 2003; DiGangi, Maag, & Rutherford, 1991).
- Teach students to plan and self-monitor story writing with a story-elements checklist (Martin & Manno, 1995).
- Teach students to self-record through check marks, stickers, or graphing the completion of a target behavior (e.g., remaining on task, paying attention, employing self-recruitment, achieving accuracy of academic task; Edwards, Salant, Howard, Brouger, & McLaughlin, 1995; Harris, Graham, Reid, McElroy, & Hamby, 1994; Hughes et al., 2002; Levendoski & Cartledge, 2000; Reid & Harris, 1993).
- Teach students to evaluate the quality of their responses (Carr & Punzo, 1993; Skinner, Bamberg, Smith, & Powell, 1993).
- Teach students to self-instruct through the steps of academic tasks (Wood, Rosenberg, & Carran, 1993).
- Teach students to self-monitor progress on goals (Barry & Messer, 2003; Konrad et al., 2006; Martin et al., 2003; Sawyer, Graham, & Harris, 1992; Trammel, Schloss, & Alper, 1994).
- Teach students to identify the task for completion, recruit assistance as needed, plan steps to complete the task, and self-check accuracy and progress (Glomb & West, 1990).

several skill areas within one unit. Her first task was to identify the state content standards she needed to address (Step 1A). Next, because she was planning for a group rather than an individual, she needed to use the second part of the form (Figures 3 and 6) to help her complete Steps 1B and 1C. She simply wrote her students' names in the first column and then used students' IEPs and her classroom observation data to identify each student's individual academic and self-determination needs, making check marks in the appropriate cells. For the academic needs, she marked only the areas that aligned with

the standard identified in Step 1A (using oral and written language). She then added up the check marks in each column and used these totals as a guide to prioritize needs in the classroom. Identifying these instructional priorities helped Ms. Alvarez develop a unit goal for her science class (Step 1D).

Next, Ms. Alvarez needed to figure out how to teach this unit (Step 2A) and to evaluate the effectiveness of her instruction (Step 2B). She decided that the Self-Determined Learning Model of Instruction (Mithaug et al., 1998) would be an excellent way to help her students reach the goals of the unit (see box,

"Evidence-Based Strategies for Promoting Self-Determination and Academic Skill Development"). She also determined how she was going to evaluate students' mastery of those goals and developed scoring rubrics. She obtained the materials she needed to implement the unit and began instruction (Step 2C).

Throughout instruction, Ms. Alvarez monitored student progress (Step 3A). On the basis of the 12-point scoring guide she created, she determined that her students were able to develop reasonable hypotheses and use the SDLMI to make plans for carrying out their

Figure 4. Example of Completed Worksheet for Planning individual instruction

Planning Worksheet for Integrating Self-Determination and Academic Content

Teacher: Ms. Smith Student or Class: John S.

Grade Level(s): 9th School Year: 2007–2008

Step 1: Decide What to Teach	Step 1A: Identify academic content standards in state or district curriculum.	General area(s): <input checked="" type="checkbox"/> English/Language Arts <input type="checkbox"/> Mathematics <input type="checkbox"/> Science <input type="checkbox"/> Social Studies/History	Specific standards: Colorado <u>Standards</u> for English/Language Arts-Standard 1: Students will read, write, listen, and speak for information and understanding. <u>Standard 4:</u> Students will read, write, listen, and speak for social interaction.
	Step 1B: Identify individual academic needs that align with the standard(s) identified in Step 1. If planning for group instruction, complete planning matrix in Figure 3.	General area(s): <input type="checkbox"/> Basic Reading (BR) <input type="checkbox"/> Reading Comprehension (RC) <input type="checkbox"/> Mathematics Calculation (MC) <input type="checkbox"/> Mathematics Reasoning (MR) <input type="checkbox"/> Spelling (SP) <input checked="" type="checkbox"/> Written Expression (WE) <input type="checkbox"/> Listening (LS) <input type="checkbox"/> Oral Expression (OE) <input type="checkbox"/> Study Skills (SS)	Specific needs: John has difficulty writing a complete paragraph that includes a topic sentence and supporting details.
	Step 1C: Identify individual self-determination needs. If planning for group instruction, complete planning matrix in Figure 3.	General area(s): <input type="checkbox"/> Choice Making (CM) <input type="checkbox"/> Problem Solving (PS) <input type="checkbox"/> Decision Making (DM) <input checked="" type="checkbox"/> Goal Setting (GS) <input type="checkbox"/> Self-Regulation (SR) <input type="checkbox"/> Self-Advocacy (SA) <input checked="" type="checkbox"/> Self-Awareness (SW)	Specific needs: John does not articulate his strengths, needs, and goals. He has attended his IEP meetings in the past, but he does not participate actively at these meetings. He should learn about his IEP and how to articulate his strengths, needs, and goals.
	Step 1D: Identify unit or lesson goals that incorporate standards, individual students' needs, and self-determination. Consider how progress will be assessed.	<input checked="" type="checkbox"/> Unit Goal(s) <input type="checkbox"/> Lesson Goal(s) John will write a complete paragraph that includes (a) a topic sentence that describes an annual goal based on a learning need, (b) four supporting details that outline four short-term objectives, and (c) a concluding sentence that identifies a reasonable timeline for completing the goal.	
Step 2: Decide How to Teach It	Step 2A: Identify evidence-based strategies to meet unit or lesson goals. Develop lessons around these strategies.	Strategy: Self-regulated strategy development model to teach the GO 4 IT...NOW! paragraph writing strategy	Evidence supporting its use: Konrad and Test (2007); Konrad and colleagues (2006); Sexton et al. (1998)
	Step 2B: Decide how to evaluate effectiveness of strategies. (How will you know students have met goals?)	Self-determination assessment: John should identify goals related to his needs and objectives that are reasonable steps on four out of five trials (checklist).	Academic assessment: John will have met the goal if his paragraphs include six complete, on-topic sentences on four out of five trials (checklist).
	Step 2C: Implement strategies in the classroom.	Date to begin: October 15, 2007	Resources needed: flashcards with the strategy steps, worksheets, self-evaluation checklists
Step 3: Evaluate and Adjust	Step 3A: Assess effectiveness of strategies using methods identified in Steps 1D and 2B.	Self-determination assessment results: He developed reasonable goals and objectives in four out of five paragraphs, but his objectives will need to be reworded for his IEP so they are measurable.	Academic assessment results: In each of his paragraphs, John was able to write six complete sentences with subjects and predicates (five out of five trials).
	Step 3B: Plan intervention for students who have not met goals, and plan for follow-up instruction.	Intervention needed: John had more difficulty writing academic goals than goals for social skills. He needs more practice on this goal.	Intervention needed: He should begin to work on writing more complex sentences and generalizing the writing strategy to other types of paragraphs.

Figure 5. Example of Completed Worksheet for Planning Group Instruction

Planning Worksheet for Integrating Self-Determination and Academic Content

Teacher: Ms. Alvarez Student or Class: Science
 Grade Level(s): 6th School Year: 2007-2008

Step 1: Decide What to Teach	Step 1A: Identify academic content standards in state or district curriculum.	General area(s): <input type="checkbox"/> English/Language Arts <input type="checkbox"/> Mathematics <input checked="" type="checkbox"/> Science <input type="checkbox"/> Social Studies/History	Specific standards: North Carolina Standards-Competency Goal 1: Learner will design and conduct investigations to demonstrate an understanding of scientific inquiry. Objective: Use oral and written language to (a) communicate findings, (b) defend conclusions of scientific investigations
	Step 1B: Identify individual academic needs that align with the standard(s) identified in Step 1. If planning for group instruction, complete planning matrix in Figure 3.	General area(s): <input type="checkbox"/> Basic Reading (BR) <input type="checkbox"/> Reading Comprehension (RC) <input type="checkbox"/> Mathematics Calculation (MC) <input type="checkbox"/> Mathematics Reasoning (MR) <input type="checkbox"/> Spelling (SP) <input checked="" type="checkbox"/> Written Expression (WE) <input type="checkbox"/> Listening (LS) <input checked="" type="checkbox"/> Oral Expression (OE) <input type="checkbox"/> Study Skills (SS)	Specific needs: Many of my students struggle with expressing their ideas clearly, both in writing and in speaking. This problem is exacerbated when students must use technical (scientific) terms.
	Step 1C: Identify individual self-determination needs. If planning for group instruction, complete planning matrix in Figure 3.	General area(s): <input type="checkbox"/> Choice Making (CM) <input checked="" type="checkbox"/> Problem Solving (PS) <input checked="" type="checkbox"/> Decision Making (DM) <input checked="" type="checkbox"/> Goal Setting (GS) <input type="checkbox"/> Self-Regulation (SR) <input type="checkbox"/> Self-Advocacy (SA) <input type="checkbox"/> Self-Awareness (SW)	Specific needs: Students in my class have difficulty with planning steps that allow them to reach their goals. This difficulty is particularly evident when students need to complete long-term projects.
	Step 1D: Identify unit or lesson goals that incorporate standards, individual students' needs, and self-determination. Consider how progress will be assessed.	<input checked="" type="checkbox"/> Unit Goal(s) <input type="checkbox"/> Lesson Goal(s) Students will use written and oral expression to demonstrate problem-solving, decision-making, and goal-setting skills. Specifically, given a chemistry experiment, students will identify the problem, state a reasonable hypothesis, develop a plan to reach their goal of carrying out the experiment, conduct the experiment, and present results in writing and orally.	
Step 2: Decide How to Teach It	Step 2A: Identify evidence-based strategies to meet unit or lesson goals. Develop lessons around these strategies.	Strategy: Self-determined learning model of instruction (SDLMI).	Evidence supporting its use: Agran, Blanchard, and Wehmeyer (2000); Agran et al. (2002); Palmer and Wehmeyer (2003).
	Step 2B: Decide how to evaluate effectiveness of strategies. (How will you know students have met goals?)	Self-determination assessment: Students should earn at least 8 out of 12 points on the scoring guide, which measures their ability to define a problem, state a reasonable hypothesis, and develop a plan to completing the experiment.	Academic assessment: Students will be assessed using two rubrics: one for the written results and one for the oral presentation of those results.
	Step 2C: Implement strategies in the classroom.	Date to begin: January 7, 2008	Resources needed: lab equipment, science textbook, lab manual, worksheets for three primary steps in SDLMI
Step 3: Evaluate and Adjust	Step 3A: Assess effectiveness of strategies using methods identified in Steps 1D and 2B.	Self-determination assessment results: Students were able to develop reasonable hypotheses and use the SDLMI to make plans for carrying out their experiments, although some students needed assistance.	Academic assessment results: Students met each component of the rubric in presenting an oral presentation to their peers.
	Step 3B: Plan intervention for students who have not met goals, and plan for follow-up instruction.	Intervention needed: Roger struggled to come up with logical steps to reach his goal. Future intervention should focus on helping him make logical decisions with a simpler task.	Intervention needed: Alisha and Ronnie did not meet mastery criteria on the writing rubric. Future mini-lessons should target punctuation and subject-verb agreement.

Figure 6. Example of Part 2 of Completed Worksheet for Planning Group Instruction

Planning Worksheet for Integrating Self-Determination and Academic Content

Steps 1B and 1C: Planning for Group Instruction

Directions:

- Write your students' names in the first column.
- Identify each student's individual academic and self-determination needs by marking a ✓ in the appropriate cell. For academic needs, focus only on the areas that align with the standard identified in Step 1A (Figure 2).
- Add the totals in the last row.
- Use these totals to help you select (in Steps 1B and 1C in Figure 2) the areas you will address in your unit or lesson.

Students	Academic Needs									Self-Determination Needs						
	BR	RC	MC	MR	SP	WE	LS	OE	SS	CM	PS	DM	GS	SR	SA	SW
John Smith	✓				✓						✓	✓				
Roger Scott		✓				✓					✓	✓	✓			
Alex Walker						✓							✓			
Monique Young							✓							✓		
Taylor Lane								✓							✓	
Christopher Stork						✓					✓	✓				
Brigitte Mane													✓			
Aisha Prather	✓	✓			✓	✓		✓								
Ronnie Hope						✓		✓								
Eric Graham									✓		✓	✓				
Total:	2	2	0	0	2	5	1	3	1	0	4	4	3	1	1	0

experiments, although some students needed assistance. For example, Roger struggled with coming up with logical steps to reach his goal. Therefore, Ms. Alvarez decided to work with Roger one-on-one to teach him to apply the steps with a simpler task (i.e., preparing for the next science test). To measure the academic goals, she used rubrics to assess the students' written and oral reports. Although all students met the criteria for the oral presentation, two students (Alisha and Ronnie) did not meet mastery criteria on the writing rubric. She decided to develop several mini-lessons for Alisha and Ronnie to target punctuation and subject-verb agreement.

Final Thoughts and Next Steps

Ms. Smith and Ms. Alvarez are now equipped with the tools they need to guide their instructional planning. The

planning worksheets have enabled them to find ways to strategically integrate self-determination instruction with academic skill development. This new approach to planning will help them deliver more efficient instruction to improve outcomes for their students. They look forward to continuing to develop this approach to planning and have come up with a few next steps:

- When they develop their students' IEPs, they will be sure to keep this planning process in mind. Now that they have tried some different methods to promote self-determination and have been collecting ongoing data, they will be able to write more appropriate and meaningful IEP goals and objectives. They are also truly excited about increasing their students' active involvement in the IEP process.
- Ms. Smith and Ms. Alvarez each began this process in just one subject area, thereby becoming proficient in the planning process without becoming too overwhelmed. Now they are looking forward to expanding this approach to other subject areas and settings in which they teach. Ms. Smith, for example, works in an inclusion class and is eager to model this approach for her coteacher. Ms. Alvarez teaches a mathematics class and will begin to try this approach in that class next year.
- Given that their students do not spend all day in self-contained classes with them, Ms. Alvarez and Ms. Smith would like to share some of their ideas with other teachers in their school. However, they understand that a new approach such as this may require an adjustment peri-

od. Accordingly, they will first be sure they have implemented it successfully in a few content areas and settings. They plan to compile a bank of examples of the model in practice that align with their local and state curricula. Next, they will talk with their principal about (a) scheduling some additional common planning time with the general education teachers to help them implement this planning approach, and (b) arranging for them to lead an in-service session to train other teachers in their school.

References

- Agran, M., Blanchard, C., Wehmeyer, M., & Hughes, C. (2002). Increasing the problem-solving skills of students with developmental disabilities participating in general education. *Remedial and Special Education, 23*, 279-288.
- Agran, M., Blanchard, C., & Wehmeyer, M. L. (2000). Promoting transition goals and self-determination through student self-directed learning: The self-determined learning model of instruction. *Education and Training in Mental Retardation and Developmental Disabilities, 35*, 351-364.
- Ajibola, O., & Clement, P. W. (1995). Differential effects of methylphenidate and self-reinforcement on attention-deficit hyperactivity disorder. *Behavior Modification, 19*, 211-233.
- Alber, S. R., & Heward, W. L. (2000). Teaching students to recruit positive attention: A literature review with recommendations for practice and future research. *Journal of Behavioral Education, 10*, 177-204.
- Algozzine, B., Browder, D., Karvonen, M., Test, D. W., & Wood, W. M. (2001). Effects of interventions to promote self-determination for individuals with disabilities. *Review of Educational Research, 71*, 219-277.
- Baer, R. M., Flexer, R. W., Beck, S., Amstutz, N., Hoffman, L., Brothers, J., et al. (2003). A collaborative followup study on transition service utilization and post-school outcomes. *Career Development for Exceptional Individuals, 26*, 7-25.
- Barry, L. M., & Messer, J. J. (2003). A practical application of self-management for students diagnosed with attention-deficit/hyperactivity disorder. *Journal of Positive Behavior Interventions, 5*, 238-248.
- Benz, M., R., Yovanoff, P., & Doren, B. (1997). School-to-work components that predict postschool success for students with and without disabilities. *Exceptional Children, 63*, 151-165.
- Brooks, A., Todd, A. W., Tofflemoyer, S., & Horner, R. H. (2003). Use of functional assessment and a self-management system to increase academic engagement and work completion. *Journal of Positive Behavior Interventions, 5*, 144-152.
- Browder, D. M., Wood, W. M., Test, D. W., Karvonen, M., & Algozzine, B. (2000). Reviewing resources on self-determination: A map for teachers. *Remedial and Special Education, 22*, 233-244.
- Carr, S. C., & Punzo, R. P. (1993). The effects of self-monitoring of academic accuracy and productivity on the performance of students with behavioral disorders. *Behavioral Disorders, 18*, 241-250.
- Colley, D. A., & Jamison, D. (1998). Post school results for youth with disabilities: Key indicators and policy implications. *Career Development for Exceptional Individuals, 21*, 145-160.
- DiGangi, S. A., Maag, J. W., & Rutherford, R. B. (1991). Self-graphing of on-task behavior: Enhancing the reactive effects of self-monitoring on on-task behavior and academic performance. *Learning Disability Quarterly, 14*, 221-230.
- Edwards, L., Salant, V., Howard, V. F., Brouger, J., & McLaughlin, T. F. (1995). Effectiveness of self-management on attentional behavior and reading comprehension for children with attention deficit disorder. *Child and Family Behavior Therapy, 17*(2), 1-17.
- Field, S., Martin, J., Miller, R., Ward, M., & Wehmeyer, M. (1998). *A practical guide for teaching self-determination*. Reston, VA: Council for Exceptional Children.
- Fowler, C. H., Konrad, M., Walker, A. R., Test, D. W., & Wood, W. M. (2007). Self-determination interventions' effects on the academic performance of students with developmental disabilities. *Education and Training in Developmental Disabilities, 43*, 270-285.
- Fuchs, L. S., Bahr, C. M., & Rieth, H. J. (1989). Effects of goal structures and performance contingencies on the math performance of adolescents with learning disabilities. *Journal of Learning Disabilities, 22*, 554-560.
- Glomb, N., & West, R. P. (1990). Teaching behaviorally disordered adolescents to use self-management skills for improving the completeness, accuracy, and neatness of creative writing homework assignments. *Behavioral Disorders, 15*, 233-242.
- Halpern, A. S., Yovanoff, P., Doren, B., & Benz, M. R. (1995). Predicting participation in postsecondary education for school leavers with disabilities. *Exceptional Children, 62*, 151-164.
- Harris, K. R., Graham, S., Reid, R., McElroy, K., & Hamby, R. S. (1994). Self-monitoring of attention versus self-monitoring of performance: Replication and cross-task comparison studies. *Learning Disability Quarterly, 17*, 121-139.
- Hoffman, A., Field, S., & Sawilowsky, S. (1996). *Self-determination knowledge scale*. Austin, TX: PRO-ED.
- Hughes, C., Copeland, S. R., Agran, M., Wehmeyer, M. L., Rodi, M. S., & Presley, J. A. (2002). Using self-monitoring to improve performance in general education high school classes. *Education and Training in Mental Retardation and Developmental Disabilities, 37*, 262-272.
- Individuals With Disabilities Education Improvement Act of 2004, P.L. 108-446, 20 U.S.C. §§ 1400 et seq.
- Jolivet, K., Wehby, J. H., Canale, J., & Massey, G. (2001). Effects of choice-making opportunities on the behavior of students with emotional and behavioral disorders. *Behavioral Disorders, 26*, 131-145.
- Konrad, M., Fowler, C. H., Walker, A. R., Test, D. W., & Wood, W. M. (2007). Effects of self-determination interventions on academic skills of students with learning disabilities. *Learning Disability Quarterly, 30*, 89-113.
- Konrad, M., & Test, D. W. (2007). Effects of GO 4 IT...NOW! strategy instruction on the written IEP goal articulation and paragraph-writing skills of middle school students with disabilities. *Remedial and Special Education, 28*, 277-291.
- Konrad, M., Trela, K., & Test, D. W. (2006). The effects of GO 4 IT...NOW! Instruction on paragraph-writing and goal-setting skills of students with orthopedic and cognitive disabilities. *Education and Training in Developmental Disabilities, 41*, 111-124.
- Lenz, K., Ehren, B. J., & Smiley, L. R. (1991). A goal attainment approach to improve completion of project-type assignments by adolescents with learning disabilities. *Learning Disabilities Research and Practice, 6*, 166-176.
- Levendoski, L. S., & Cartledge, G. (2000). Self-monitoring for elementary school children with serious emotional disturbances: Classroom applications for increased academic responding. *Behavioral Disorders, 25*, 211-224.
- Martin, K. F., & Manno, C. (1995). Use of a check-off system to improve middle school students' story compositions. *Journal of Learning Disabilities, 28*, 139-149.
- Martin, J. E., Mithaug, D. E., Cox, P., Peterson, L. Y., Van Dycke, J. L., & Cash, M. E. (2003). Increasing self-determination: Teaching students to plan, work, evaluate, and adjust. *Exceptional Children, 69*, 431-447.
- Mason, C., Field, S., & Sawilowsky, S. (2004). Implementation of self-determination activities and student participation in IEPs. *Exceptional Children, 70*, 441-451.
- Mason, C. Y., McGahee-Kovac, M., Johnson, L., & Stillerman, S. (2002). Implementing student-led IEPs: Student participation and student and teacher reactions. *Career Development for Exceptional Individuals, 25*, 171-192.
- McGahee, M., Mason, C., Wallace, T., & Jones, B. (2001). *Student-led IEPs: A guide*

- for student involvement. Arlington, VA: Council for Exceptional Children.
- Mithaug, D. E., Wehmeyer, M. L., Agran, M., Martin, J., & Palmer, S. B. (1998). The self-determined learning model of instruction: Engaging students to solve their learning problems. In M. L. Wehmeyer and D. J. Sands (Eds.), *Making it happen: Student involvement in education planning, decision making and instruction* (pp. 299-328). Baltimore: Brookes.
- Moes, D. R. (1998). Integrating choice-making opportunities within teacher-assigned academic tasks to facilitate the performance of children with autism. *Journal of the Association of Persons with Severe Handicaps*, 23, 319-328.
- O'Reilly, M. F., Lancioni, G., Gardiner, M., Tiernan, R., & Lacy, C. (2002). Using a problem-solving approach to teach classroom skills to a student with moderate intellectual disabilities within regular classroom settings. *International Journal of Disability, Development and Education*, 49, 95-104.
- Palmer, S. B., & Wehmeyer, M. L. (2003). Promoting self-determination in early elementary school: Teaching self-regulated problem-solving and goal-setting skills. *Remedial and Special Education*, 24, 115-126.
- Palmer, S. B., Wehmeyer, M. L., Gipson, K., & Agran, M. (2004). Promoting access to the general curriculum by teaching self-determination skills. *Exceptional Children*, 70, 427-439.
- Pocock, A., Lambros, S., Karvonen, M., Test, D. W., Algozzine, B., Wood, W., et al. (2002). Successful strategies for promoting self-advocacy among students with LD: The LEAD group. *Intervention in School and Clinic*, 37, 209-216.
- Raskind, M. H., Goldberg, R. J., Higgins, E. L., & Herman, K. L. (1999). Patterns of change and predictors of success in individuals with learning disabilities: Results from a twenty-year longitudinal study. *Learning Disabilities Research and Practice*, 14, 35-49.
- Reid, R., & Harris, K. R. (1993). Self-monitoring of attention versus self-monitoring of performance: Effects on attention and academic performance. *Exceptional Children*, 60, 29-40.
- Sample, P. L. (1998). Postschool outcomes for students with significant emotional disturbance following best-practice transition services. *Behavioral Disorders*, 23, 231-242.
- Sawyer, R. J., Graham, S., & Harris, K. R. (1992). Direct teaching, strategy instruction, and strategy instruction with explicit self-regulation: Effects on composition skills and self-efficacy of students with learning disabilities. *Journal of Educational Psychology*, 84, 340-352.
- Schunk, D. H. (1985). Participation in goal setting: Effects on self-efficacy and skills of learning disabled children. *Journal of Special Education*, 19, 307-317.
- Sexton, M., Harris, K. R., & Graham, S. (1998). Self-regulated strategy development and the writing process: Effects on essay writing and attributions. *Exceptional Children*, 64, 295-311.
- Skinner, C. H., Bamberg, H. W., Smith, E. S., & Powell, S. S. (1993). Cognitive cover, copy, and compare: Subvocal responding to increase rates of accurate division responding. *Remedial and Special Education*, 14, 49-56.
- Test, D. W., Browder, D. M., Karvonen, M., Wood, W., & Algozzine, B. (2002). Writing lesson plans for promoting self-determination. *TEACHING Exceptional Children*, 35, 8-14.
- Test, D. W., Fowler, C. H., Brewer, D. M., & Wood, W. M. (2005). A content and methodological review of self-advocacy intervention studies. *Exceptional Children*, 72, 101-125.
- Thoma, C. A., Nathanson, R., Baker, S. R., & Tamura, R. (2002). Self-determination: What do special educators know and where do they learn it? *Remedial and Special Education*, 23, 242-247.
- Thurlow, M. L. (2002). Positive educational results for all students: The promise of standards-based reform. *Remedial and Special Education*, 23, 195-202.
- Todd, A. W., Horner, R. H., & Sugai, G. (1999). Self-monitoring and self-recruited praise: Effects on problem behavior, academic engagement, and work completion in a typical classroom. *Journal of Positive Behavior Interventions*, 1, 66-76.
- Tollefson, N., Tracy, D. B., Johnsen, E. P., & Chatman, J. (1986). Teaching learning disabled students goal-implementation skills. *Psychology in the Schools*, 23, 194-204.
- Trammel, D. L., Schloss, P. J., & Alper, S. (1994). Using self-recording, evaluation, and graphing to increase completion of homework assignments. *Journal of Learning Disabilities*, 27, 75-81.
- Warner, D. A., & deJung, J. E. (1971). Effects of goal setting upon learning in educable retardates. *American Journal of Mental Retardation*, 75, 681-684.
- Weber, K. P., & McLaughlin, T. F. (2000). A comparison of copy, cover, and compare and a traditional spelling intervention for an adolescent with a conduct disorder. *Child and Family Behavior Therapy*, 22, 55-68.
- Wehmeyer, M., & Schwartz, M. (1997). Self-determination and positive adult outcomes: A follow-up study of youth with mental retardation or learning disabilities. *Exceptional Children*, 63, 245-255.
- Wehmeyer, M., & Schwartz, M. (1998). The relationship between self-determination and quality of life for adults with mental retardation. *Education and Training in Mental Retardation and Developmental Disabilities*, 33, 3-12.
- Wehmeyer, M. L. (1995). *The Arc's self-determination scale*. Silver Spring, MD: The Arc of the United States.
- Wehmeyer, M. L., Agran, M., & Hughes, C. (2000). A national survey of teachers' promotion of self-determination and student-directed learning. *Journal of Special Education*, 34, 58-68.
- Wehmeyer, M. L., Field, S., Doren, B., Jones, B., & Mason, C. (2004). Self-determination and student involvement in standards-based reform. *Exceptional Children*, 70, 413-425.
- Wehmeyer, M. L., & Palmer, S. B. (2003). Adult outcomes for students with cognitive disabilities three years after high school: The impact of self-determination. *Education and Training in Developmental Disabilities*, 38, 131-144.
- Wehmeyer, M. L., Palmer, S. B., Agran, M., Mithaug, D. E., & Martin, J. E. (2000). Promoting causal agency: The self-determined learning model of instruction. *Exceptional Children*, 66, 439-453.
- Wolman, J. M., Campeau, P. L., DuBois, P. A., Mithaug, D. E., & Stolarski, V. S. (1994). *AIR self-determination scale and user guide*. Palo Alto, CA: American Institutes for Research.
- Wood, D. A., Rosenberg, M. S., & Carran, D. T. (1993). The effects of tape-recorded self-instruction cues on the mathematics performance of students with learning disabilities. *Journal of Learning Disabilities*, 26, 250-258.
- Zickel, J. P., & Arnold, E. (2001). Putting the I in the IEP. *Educational Leadership*, 59, 71-73.

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